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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,564

09/01/2006

Oskar Pammer

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EXAMINER

SLIFKA, COLIN W

ART UNIT

PAPER NUMBER

1793

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DELIVERY MODE

09/01/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,564	Applicant(s) PAMMER ET AL.	
	Examiner COLIN W. SLIFKA	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,5 and 7-19 is/are pending in the application.
- 4a) Of the above claim(s) 7-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,5 and 17-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/3/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 4, 5, and 17-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 17 recite the limitation "the granulation process" in lines 4 and 7 of claim 1 and lines 5-6 of claim 17. There is insufficient antecedent basis for this limitation in the claims.

In addition to "the granulation process" not being previously defined in the claims (and in part because of that), it is not clear if, for instance, before "the granulation process" is referring to before the physical location of the granulation drum within the system or before the actual process of granulation begins. In other words, is the claim meant to refer to a physical location or a point in time within the process...or something different altogether?

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komatsu et al (JP 60052533 A) in view of Kurosawa et al (JP 03249138 A), either Druet et al (DE 2715423 C) or Morishita (JP 10-060550 A), Fujimoto et al (US 4,871,393), and Feichtner et al (US 4,410,355).

Komatsu clearly teaches that iron ore powder, lime powder, and coke powder are mixed in a primary mixer and that returned ore is then added to this material and then made into pellets and sintered (Derwent abstract).

Komatsu does not specifically teach that some of the returned sintered material is added alone "within a longitudinal extent of a granulation drum" during the granulation process. Komatsu also does not teach that the returned sintered material is added in two different locations, such as both before the granulation drum and within the granulation drum, as stated in instant claim 1.

Druet, in a similar invention of sintering ore, shows sintered material being delivered directly back into the granulation device (Figure 1).

Morishita, in a similar invention of sintering ore, shows return fines fed directly back to the discharge end of the drum mixer (Figure 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to produce a sintered ore of Komatsu by feeding a portion of the returned sintered material directly back into the granulation device, which is a commonly known practice as can be seen by Druet and Morishita.

Kurosawa, in a similar invention, teaches that some of the returned sintered material may be brought back to both before the first mixer as well as just before the secondary pelletizing mixer (Figure 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to produce a sintered ore of Komatsu by feeding back portions of the sintered ore to multiple different locations as taught by Kurosawa, such as before the granulation device, which is taught by Komatsu and Kurosawa, and directly into the granulation device, which is taught by Druet and Morishita. Said "multiple different locations" can be multiple feedback locations at the same time within a process, such as in instant claim 1, as well as singular feedback points, such as in claim 17.

Furthermore, the act of adding returned sintered material before the granulation device and within the longitudinal extent of the granulation drum is not patentably distinguishable, especially not at face value. As in Komatsu and Kurosawa, the returned material apparently is at least added back to the line conveying material from the first mixer to the granulation device. As the material is just added to such a line, with no additional equipment to move the material around, it can only be assumed that the returned material sits in place with the "pre-sintered" material, with no physical mixing or chemical reactions taking place. Under such a presumption—one which must be made—there is no substantial difference whether the returned material is added at any point from just after the "mixing" to just before the "granulation." Ultimately for this point, the conveyer line between said "mixing" step and said "granulation" step could be 5 feet or 5 miles and the point where returned material is added would not matter

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because it is a line in which no process takes place...it is a void in the system and only a means to transport materials from one step to another. That said, there is no difference between any point between the two steps, and the first point of entry into the granulation device. To illustrate this point exactly, consider a conveyor belt AB to transport a "mixed" material from the "mixing" device to the "granulation" device. The conveyor belt AB begins at the end of the "mixing" device, at point A, and ends at the beginning of the "granulation" device, at point B. As stated above, any returned material added at any point between A and B will have the same effect, as there are no opposing forces to physically or chemically affect the material. There is a second conveyor belt C which travels just above and parallel to belt AB, leading into the "granulation" device. Any physical interactions will only happen in the "granulation" device. One should be able to gather that this process in which the original raw material is separated from the returned material until the point of entry within the granulation device (within the "longitudinal extent" of the granulation device) is essentially the same as if the returned material had been added to belt AB at point B, or any point between A and B for that matter. Such is not a patentable distinction because the same granulation is achieved.

longitudinal extent of a granulation drum," the longitudinal extent of a granulation drum is considered to be anywhere within the walls. No matter how the material is added, from the side, top, middle, bottom, etc., the material will have been added "within the longitudinal extent" of the granulation drum.

Komatsu does not specifically teach the use of a "granulation drum."

Fujimoto, in a similar process of feeding sintering raw ore mix, teaches that various raw mixes are mixed and granulated by a drum mixer (col. 1, lines 30-32).

It is very possible that the secondary mixer of Komatsu was a "granulation drum," and it would have been obvious to one of ordinary skill in the art at the time of the invention to use a granulation drum mixer as taught by Fujimoto in the process of Komatsu, as both pieces of equipment additionally mix and granulate the materials of similar inventions.

With respect to the adding of the returned material to the granulation drum "during" the granulation process, it is considered that the process of Komatsu is a continuous process. Komatsu does not specifically state this, however.

Feichtner, in a similar process for controlling a pelletizing plant for fine-grained ores, teaches that with certain control processes, operating conditions can scarcely be optimized with respect to the throughput, and furthermore, such plants can only with great difficulties be started after a shut-down (col. 2, lines 3-8). It is considered that it is common practice in these processes to operate continuously, and likewise it would have been obvious to one of ordinary skill in the art at the time of the invention that the returned materials of Komatsu, Kurosawa, Druet, and Morishita would be added to the granulation drum during the granulation process.

With respect to the mixing of amended claim 1, Komatsu does not specifically describe the physical aspects of the mixing process. Regardless, it is well known in the art that mixing can take place with a "mixing tool," where movement takes place between the container and the mixing tool. Additionally, it would have been obvious for

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the mixing step to be carried out in a manner that would provide desired results, and "intensive" mixing would be subject to the process specifications.

Regarding claims 4 and 18, Komatsu and Kurosawa teach that the returned sintered material can be added to the main "mixture" before the secondary mixer, and Druet and Morishita teach that the returned material can be added directly into the pelletizer.

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the returned sintered material at any point or points, without limiting the feed to a fixed position, between after the primary mixer to any portion of the secondary mixer, with respect to the invention of Komatsu for example. Again, Morishita specifically teaches that the returned material is added to the end of the granulation device.

Claims 5 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komatsu et al (JP 60052533 A) in view of Kurosawa et al (JP 03249138 A), either Druet et al (DE 2715423 C) or Morishita (JP 10-060550 A), Fujimoto et al (US 4,871,393), and Feichtner et al (US 4,410,355) as applied to claims 1 and 17 above, and further in view of Noda et al (US 5,009,707).

Komatsu as combined with Kurosawa and either Druet or Morishita teach a process of returning sintered material to one or multiple locations before or directly into a granulation device, as shown above.

Komatsu does not specifically teach the particle size of the forming granules when the fuel is added.

Noda, in a similar invention of manufacturing agglomerates of sintered pellets, clearly teaches that agglomerates of less than 25 mm in particle size are charged into a secondary disk pelletizer. Solid fuel is added to the secondary disk pelletizer and primary agglomerates are coated with the solid fuel whereby pellets of 5-10 mm in particle size are manufactured. Powdery coke, char, pulverized coal or the like is used as the solid fuel (col. 3, lines 29-35).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the fuel to the material-to-be-sintered of Komatsu when the pellets are between 5-10 mm, as taught by Noda, because it is known in the art that this is a desirable particle range, as they are both similar processes and would therefore require similar sized particles.

Response to Arguments

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment to claim 1 requiring that the returned sintered material be added in two locations has required the new rejection seen above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to COLIN W. SLIFKA whose telephone number is (571)270-5830. The examiner can normally be reached on Monday-Thursday, 10:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melvin Curtis Mayes can be reached on 571-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/COLIN W SLIFKA/
Examiner, Art Unit 1793

August 29, 2009

/Melvin Curtis Mayes/
Supervisory Patent Examiner, Art Unit 1793